| Work Orde | | | | *916 | 886* | | | | | | | Page | 1 |
|--------------------------------|--------------|-------------------------|------------------------|----------------------|-------------|------------|--------------|---------------|--------------|---------------|------------------|----------------|-------------|
| Revision ID: | D3188-6 | | A | ccept | *N900 | 040 | 100 |)* s | etup S | Start Stop | | S1* | |
| tem Name: | Spacepod Bod | ly | | | | | | | • | Stop | *N: | S 2* | |
| | 10/15/12 | Start Qty: 1.00 | *1* | | Cust Item I | D: | | | | | | | |
| Required Date: Reference: | 11/05/12 | Req'd Qty: 1.00 | *1* | | Customer: | | | | | Q., . | | | |
| Approvals: | Process Pla | in: MLJ | Date: 12-10-12 | Tooling: _ | Da | ate: | | R | | Start | *N | R1* | |
| | QC: | | Date: | SPC (Y/N): | Da | ate: | | | | Stop | *NI | R2* | |
| Sequence ID/ Work Center II | D | Operation Description | | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Rejec Qty | | Reject Number | Insp. Stamp | |
| Draw Nbr | Rev | ision Nbr | | | - | | | | | | | | |
| D3188 | Rev | / F | | | | | | | | | | | |
| 100 | | QC6- Inspect dimension | ns to drawing | 0.00 | 1 | | | | | J., 1, | | | |
| *100* ^{QC} | | Memo | | 0.00 | 16/31 | | | | | | | | _ |
| Quality Control | | Check for v | oid spot and pins. | | | | | | | | | | |
| 110 | | Identify as per dwg & S | tock Location: Coup os | £e5 | | | | | | | | | |
| *110* Packaging Packaging | | Мето | PPP 91682 | 0.00 | | | | 8 | T | _13 | - 0(| - 71 | - |
| 120 | | QC21- Final Inspection | - Work Order Release | 0.00 | | | | | 10 | 1) | - / | 1 | |
| *120* QC Quality Control | | Мето | | 0.00 | | | | | 13 | <u>[1</u>] | 31 | 1 | - (a) = |

ML5 13-01-31

| | | | | | | | | | | | | DQA: | Da | ate: _ | |
|---------------|------|-----------|----------|---------------------------|-------------|----------------------------|-----|---------------------------------|------------|-----------|----|--------------|--------------|----------------------|--------------------|
| NCR: | ⁄es | / No | | | | WORK ORDER NON-O | COI | NFORM | MANCE / UP | DATE | | | | | |
| | | | | | | | | | | | | QA Closed: | Da | ate: | |
| Work Orde | ar. | | | | | DISPOSITION | | | | AGAINST D | Εſ | PARTMENT | PROCESS | | |
| WORK OTUE | ۲۱۰. | • | | | | Rework | 1 | | Skid-tube | Crosstube | ٦ | | Water Jet | · [] | Engineering |
| Part N | Vo. | | | | | Scrap | | | Machining | Small Fab | ┪ | Pro | d. Eng. Coor | | Quality |
| | | | | | | Use-as-is | 1 | | noforming | Finishing | 7 | | e/Packaging | \vdash | Other |
| NCR 1 | Vo. | | | | | Work Order Update |] | | Large Fab | Composite | | | Supplie | $\lceil \Box \rceil$ | |
| | | | | | | | | <u> </u> | | | | | | | |
| Root | | | | | ł | ption of work order update | 1 | Initial | | tion | ļ | Sign & | | | |
| Cause | | Date | Step | Qty | (| or Non-conformance | Cr | nief Eng | Desc | ription | ╝ | Date | Verification | on | QC Inspector |
| Doc/Data | | | | | | | İ | | | | | | | Ì | |
| Equip/Tooling | | | | | | | | | | | - | | | | |
| Operator | | | | | | | | | | | 1 | | | ļ | |
| Material | | | | | | | 1 | | | | | | | | |
| Setup | | | | | | | | | i | | | | | - 1 | |
| Other | | | | | | | | | | | | | | ļ | |
| Process | | | | | | | | | | | | | | | |
| Supplier | | | | | | | | | | | - | | | ļ | |
| Training | | | | | | | | | | | ļ | | | | |
| Unapproved | | | | | | | | | | | | | | | |
| | | | | | | F | AUI | LT CATE | GORY | | | · | | | · |
| Landi | ng (| Gear | | | | General | | | | | | | | | _ |
| | | Bending | | | | Bend | | Grain | | | Ì | Ovalized | | | Pressure/Forced |
| | | Centre No | ot Conce | ntric to | o/s | BOM/Route | | Hardwa | re | | | Over/Under | tolerance | | Temperature/Cure |
| | | Cracks | | | | Broken/Damaged | | Inspection Incomplete | | | | Part Incorre | ct | | Weld |
| | | Crushed/ | Crimped. | | | Burrs | | Instructions Incomplete/Unclear | | | | Part Lost/Mi | ssing | | Wrong Stock Pulled |
| Cuffs | | | | Contamination Maintenance | | | | _ | Part Moved | | | - | | | |

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

October-15-12 10:31:52 AM

Work Order ID:

91686

Parent Item:

D3188-6

Parent Item Name:

Spacepod Body

Start Date: 10/15/12

Required Date: 11/05/12

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A 09-02-05 New Issue DD verified by:EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D3188-2M | | Manufactured | No | | | 100 | Each | 0.0000 | 1 | 1 | | | |
| SPACEPOD BODY RH | | | | | 0 | 91201 | • | | C | 25 | 17-0 | > /3 | |

Page 1

| NCR: | es / | No | | | | WORK ORDER NON- | CO | NFORM | IANCE / UPDATE | | - | | | |
|---|---|-------|------------------------|---|---|--|-----|--------------------|---------------------------------------|--------|---------------------------|--|----------|-----------------|
| , | | | | ··· | | | | | | | QA Closed: | Da | ite: | |
| Work Orde | or. | | | | | DISPOSITION | | | AGAI | NST D | EPARTMENT/ | PROCESS | | |
| Work Order: | | | | Rework Scrap Use-as-is | Skid-tube Crosstube Machining Small Fab Thermoforming Finishing | | | -4 | Water Jet I. Eng. Coor. e/Packaging | | Engineering Quality Other | | | |
| NCR N | NO | | | | | Work Order Update | ال | | Large Fab Compo | osite[| J | Supplier | | |
| Root Cause | | ate | Step | Qty | | ption of work order update or Non-conformance | | nitial iief Eng | Action Description | | Sign & Date | Verificatio | in | QC Inspector |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved | | | | | | | | | | | | | | |
| | | | | | | F | AUL | T CATE | GORY | | | | | |
| Landi | ⊢ | nding | | | | General Bend | | Grain | | Ĺ | Ovalized | | — | Pressure/Forced |
| | Centre Not Concentric to O/S Cracks Crushed/Crimped | | | BOM/Route Broken/Damaged Burrs | | Hardware Inspection Incomplete Instructions Incomplete/Unclear | | | Over/Under Part Incorred Part Lost/Mi | ct | | Temperature/Cure Weld Wrong Stock Pulled | | |
| | Cuffs Heat Treat Inspection Strip in Tube | | | Contamination Countersink Cut Too Short | | Maintenance Mislabeled Misread | | | Part Moved Positioned V Power Loss/ | _ | | Other | | |
| | Ripples in Bend Torque Waves in Extrusion | | Drill Holes Drawing | - | Offset Out of Calibration | | | | | | | | | |

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

GENERAL NOTES:

D

MATERIALS:

RESIN: EPOCAST 50-A/9816 OR DERAKANE 470-36/411/510A40

FIBER: 9.7 oz 7781 WEAVE "S" GLASS (9 oz SATIN) 12 oz UNIDIRECTIONAL FIBERGLASS ("12 oz UNIDIRECTIONAL") 18 oz ROVING "E" GLASS (18 oz CLOTH) OWENS CORNING MILLED FIBERS, "E" GLASS 3M K20 GLASS BUBBLES

FOAM: A500 CORE CELL OR DIVINYCELL OR AIREX

OR KLEGECELL

FILL VOIDS IN FOAM WITH PASTE MADE FROM MILLED FIBERS & RESIN

1. MOLD SHEDULE:

PART LAYUP TRIM AND DRILL DT8501 D3188-1M/-1/-5 DT8003 D3188-2M/-2/-6 DT8004 DT8502 D3188-3M/-3/-7 DT8500 DT8501

- FINISH: INSIDE/OUTSIDE WITH GREY DUPONT HIGHBUILD PRIMER 1144-S. APPLY ANTI-SKID PAINT TO TOP SURFACE OF PODS PER QSI 005 4.4
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED 4)
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3188-1 = N/A

D3188-2 = N/A

D3188-3 = N/A

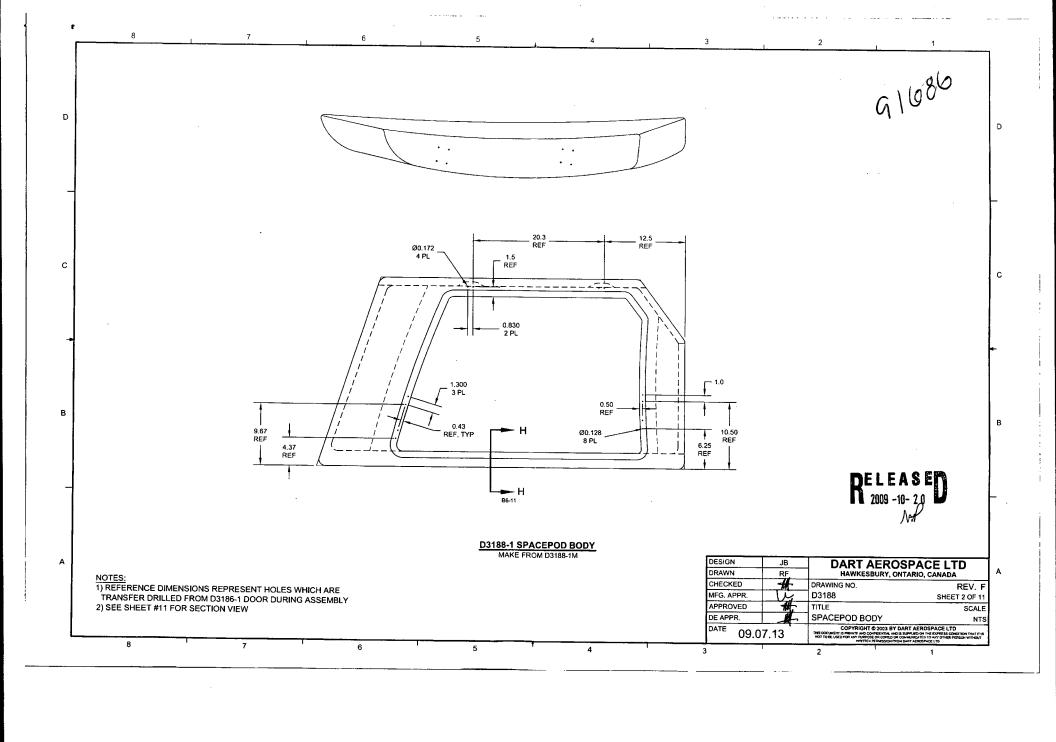
D3188-5 = N/A

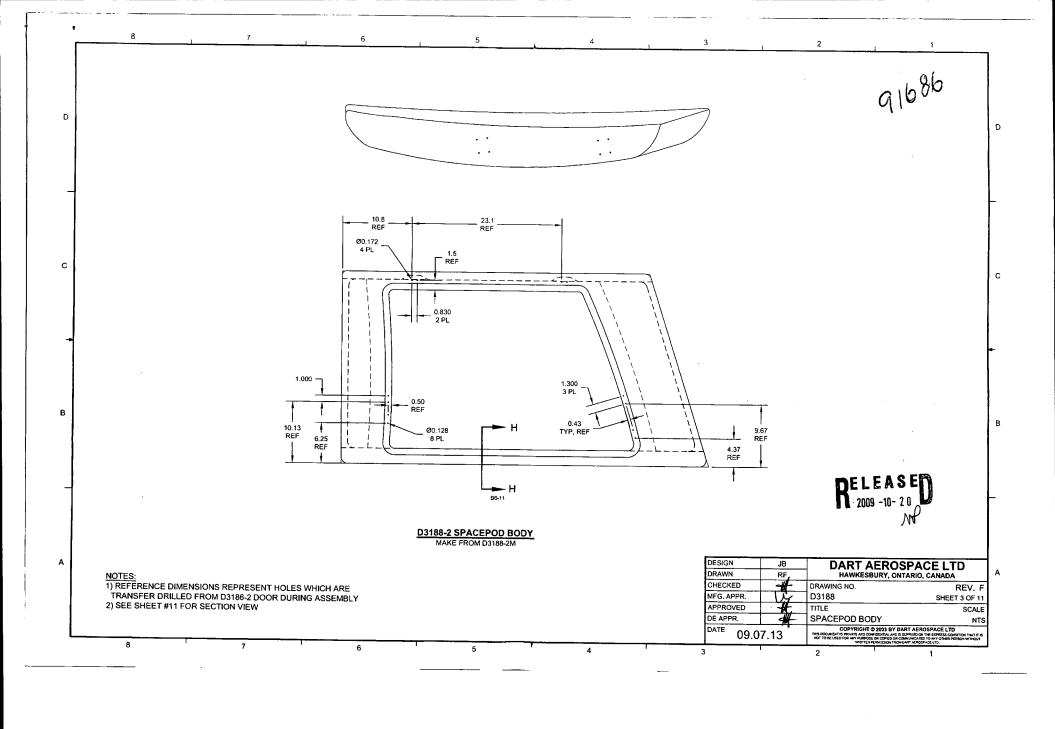
D3188-6 = N/A

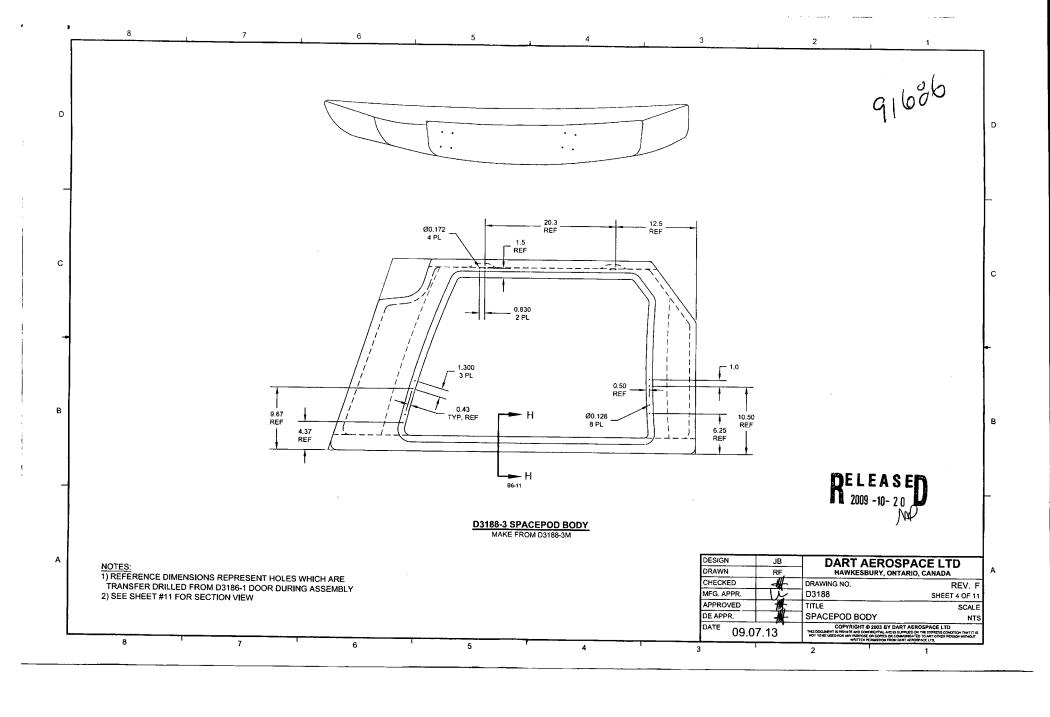
- D3188-7 = N/A
- REFERENCE DIMENSIONS MATCH AIRCRAFT CONTOUR AND DOOR OPENING
- LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING

SHOP COPY RETURN TO **ENGINEERING** UNCONTROLLED COPY SHADECT TO AMENDMENT WHIROUT NOTICE WORK ORDER ALT 12-10-15

| F | TO CU | GANIZED VIE RRENTS STA | RF | 09.07.13 | | | | |
|------------|--------|---------------------------|--|----------|----------|--|--|--|
| | SECT | ONS A-A (ZN | C7-10) & H-H (ZN B7-11) | | } | | | |
| Ε | ADD H | YSOL/ FIBER | OPTION ON SHEET 11 | СВ | 07.04.02 | | | |
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| С | REMO | VED D0600-X | LE | 06.12.13 | | | | |
| В | | ED DWG TO 1M/-2M/-3M/- | СВ | 06.10.06 | | | | |
| A | NEW IS | SSUE | CP | 03.04.03 | | | | |
| REV. | | | BY | DATE | | | | |
| DESIGN JB | | | DART AEROSPA | ACE | ITD | | | |
| DRAWN RF. | | | HAWKESBURY, ONTARIO, CANADA | | | | | |
| CHECKE | D | 4 | DRAWING NO. | | REV. F | | | |
| MFG. APPR. | | | D3188 | | | | | |
| APPROVED - | | | TITLE | SCALE | | | | |
| DE APPI | R. | 4 | SPACEPOD BODY N | | | | | |
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D D **I** 82-11 С 7.1 REF 10.00 REF 0.43 TYP, REF ___ 0.830 2 PL Ø0.172 Ø0.128 4 PL В 5.0 REF 6.25 REF B6-11 D3188-5 SPACEPOD BODY MAKE FROM D3188-1M DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DESIGN DRAWN RF. 1) REFERENCE DIMENSIONS REPRESENT HOLES WHICH ARE TRANSFER DRILLED FROM D3186-3 DOOR DURING ASSEMBLY 2) SEE SHEET #11 FOR SECTION VIEWS CHECKED DRAWING NO. REV. F MFG. APPR. D3188 SHEET 5 OF 11 APPROVED TITLE SCALE SPACEPOD BODY DE APPR, NTS COPYRIGHT © 2003 BY DART AEROSPACE LTD

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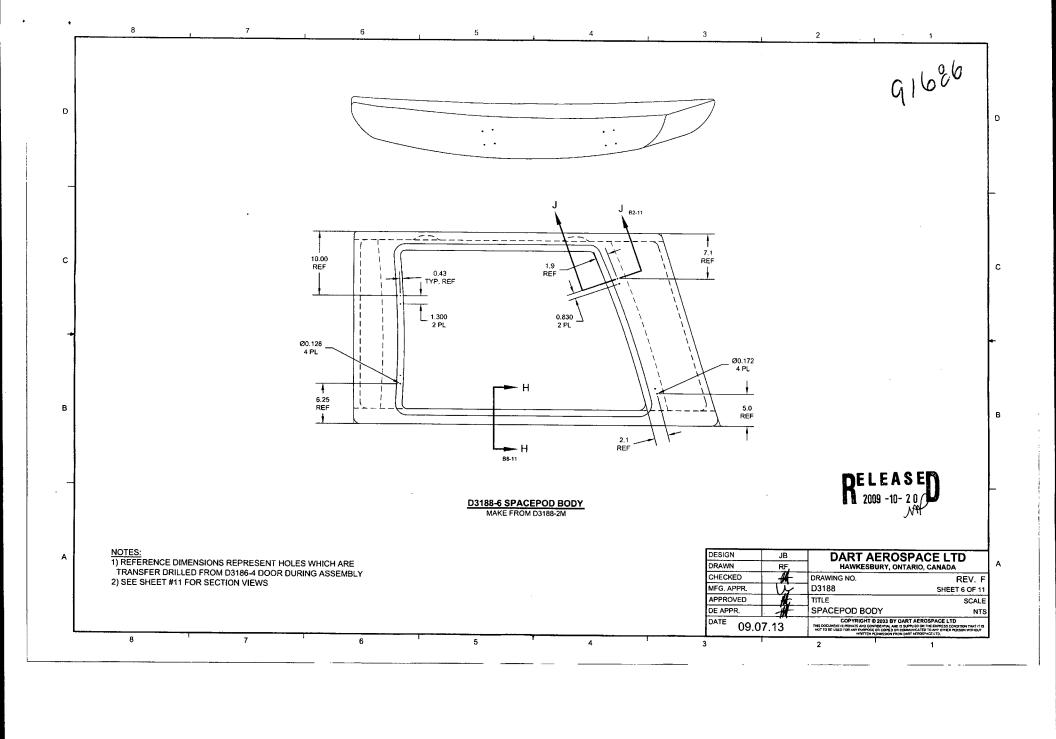
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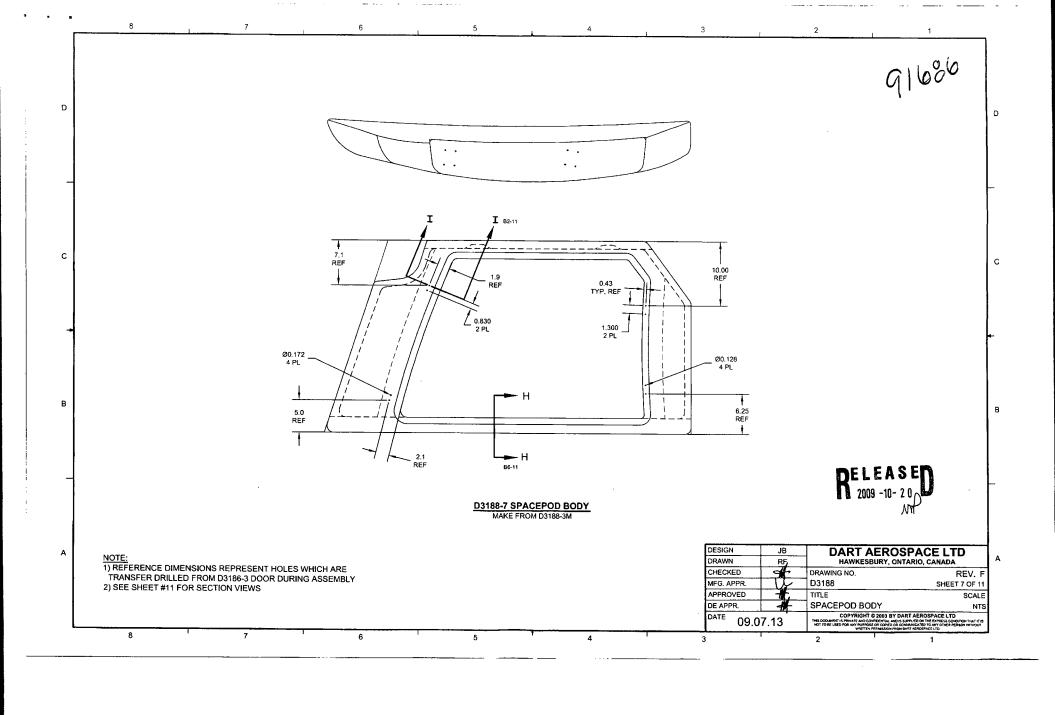
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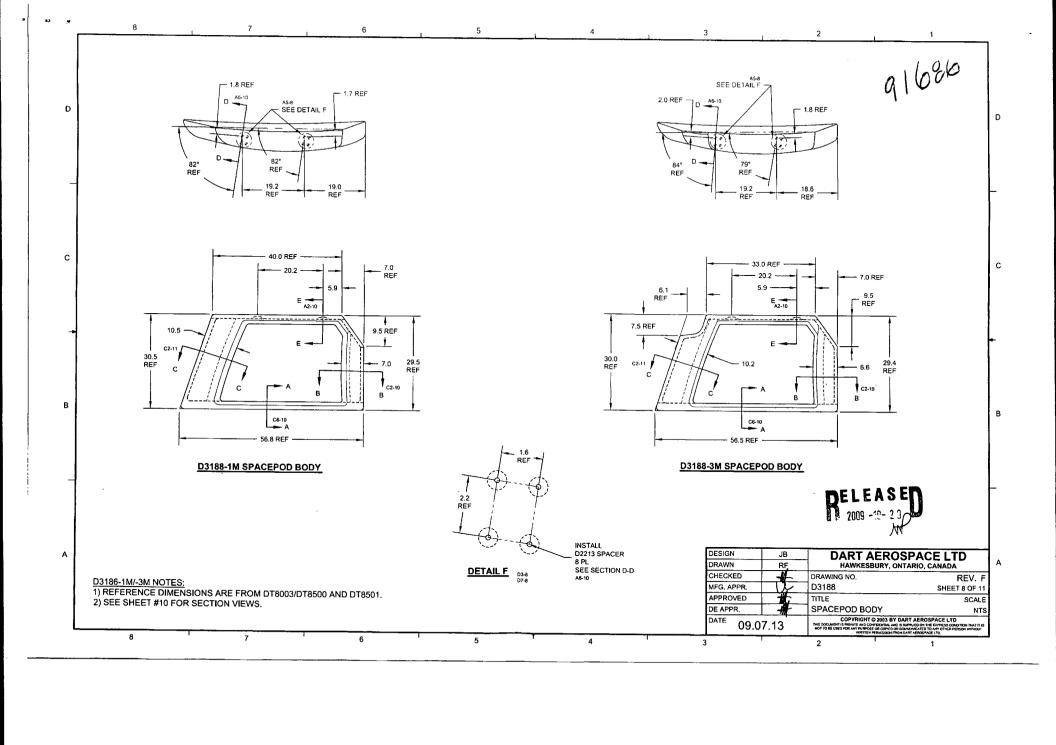
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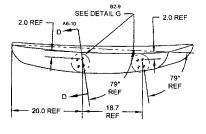
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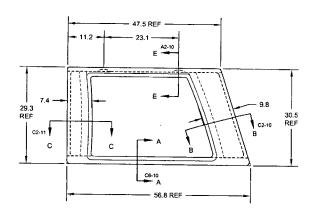




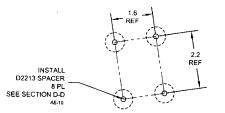


91686





D3188-2M SPACEPOD BODY



DETAIL G D6-9

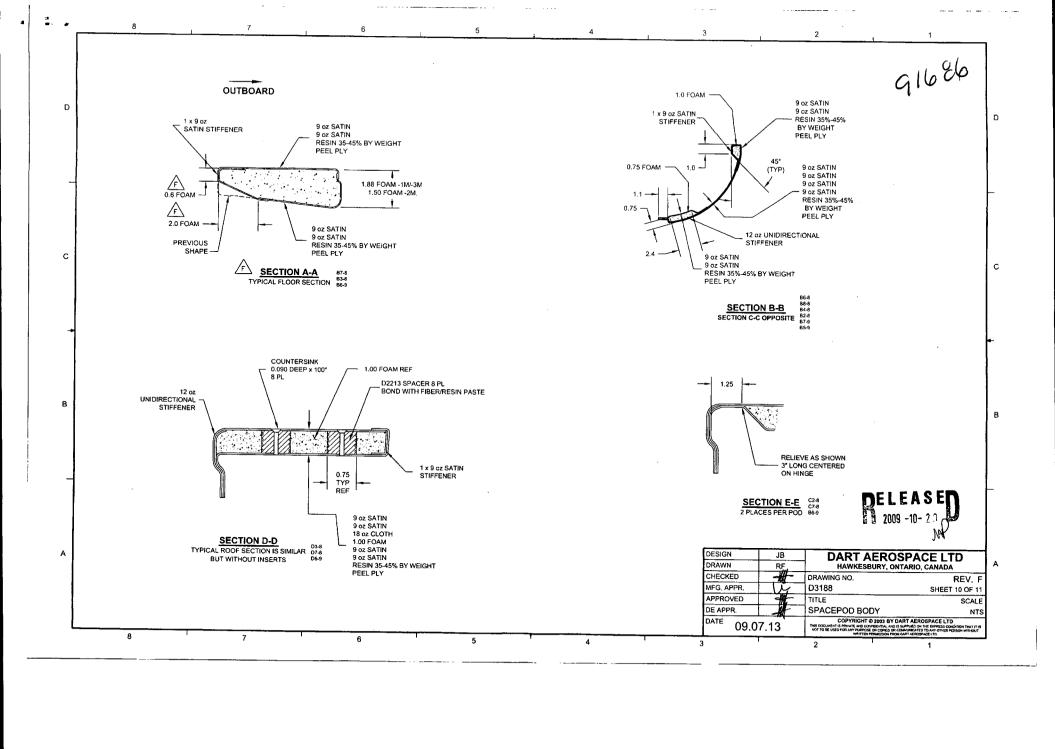
| DESIGN | JB | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | | | | | |
|------------|------|---|---------------|--|--|--|--|
| DRAWN | RF | | | | | | |
| CHECKED | -4 | DRAWING NO. | REV. F | | | | |
| MFG. APPR. | 17 | D3188 | SHEET 9 OF 11 | | | | |
| APPROVED | # | TITLE | SCALE | | | | |
| DE APPR. | # | SPACEPOD BODY | NTS | | | | |
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В

Α

D3186-2M NOTES:
1) REFERENCE DIMENSIONS ARE FROM DT8004 AND DT8502.
2) SEE SHEET #10 FOR SECTION VIEWS.



91686 D SPACEPOD INNER SKIN -Ø0.37 HYSOL 934NA W/ С INSTALL AKS7-1032-130 MILLED GLASS FIBRES OR METALSET A4 INSERTS 29 PL
PER D3188-1T1 (D3188-1/-3/-5/-7)
OR D3188-2T1 (D3188-2/-6) C OUTBOARD SPACEPOD OUTER SKIN FOAM FOAM REF REF ~ 0.25 PREVIOUS SHAPE SECTION H-H A5-5 A5-2 A5-3 A5-4 A5-5 B5-6 B5-7 В SECTION 1-1 SECTION 1-1 CS-5 C4-6 C5-7 4 PLACES PER POD DESIGN DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWN RF. CHECKED DRAWING NO. REV. F MFG. APPR. D3188 SHEET 11 OF 11 APPROVED TITLE SCALE DE APPR. SPACEPOD BODY NTS COPYRIGHT © 2003 BY DART AEROSPACE LTD
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